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REMARKS

Claims 1-20 are pending in the present application. In the Office Action mailed July 28, 2005, the Examiner rejected claims 1-5, 7, 11, 12, 13, 15, 16, 18, and 19 under 35 U.S.C. §102(b) as being anticipated by Carkhuff (USP 5,681,489). The Examiner next rejected claims 6, 8-10, 14, 17, and 20 under 35 U.S.C. §103(a) as being unpatentable over Carkhuff.

The Examiner rejected claim 1 under 35 U.S.C. §102(b) as being anticipated by Carkhuff stating that "the claims do not set forth that the entire starting circuit is in the torch head as argued." The Examiner has generalized Applicant's arguments in the Response of May 16, 2005 in a single sentence that is not accurate. Applicant has not merely argued that the "entire starting circuit is in the torch head" but has provided numerous distinctions between that which is called for in the claims and that which is disclosed in Carkhuff. Nevertheless, Applicant has amended the claims to clearly define over Carkhuff.

Claim 1 calls for, in part, a plasma cutting torch having a plasma cutter starting circuit disposed in the torch body and configured to generate a pilot arc signal and deliver that pilot arc signal directly to the output electrode to cause generation of a pilot arc. The plasma arc cutter starting circuit, the circuit configured to generate the pilot arc signal, is disposed in the torch body and configured to deliver that pilot arc signal directly to the output electrode. Applicant does not necessarily disagree the Carkhuff discloses a plasma torch having a trigger and a switch, however that is not what is called for in the present claims. Claim 1 calls for a torch having a circuit disposed in the torch and that circuit is defined as being configured to generate a pilot arc signal. Carkhuff does not teach, suggest, or disclose such a plasma torch.

MPEP §2131 states that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Claim 1 calls for, in part, a plasma cutting torch having a plasma cutter starting circuit (1) disposed in the torch body and (2) configured to generate a pilot arc signal. While Carkhuff may disclose a plasma torch having a portion of an electrical circuit therein, claim 1 does not simply call for any circuit in the torch. Claim 1 defines the circuit disposed in the torch body as being configured to generate a pilot arc signal. There is no torch having such a circuit disclosed, taught, or even suggested in Carkhuff as suggested by the Examiner.

Carkhuff discloses a torch that communicates to a power supply that delivers the pilot arc signal to the electrode to create the electrical arc and a pressure sensing system for disabling the power supply if there is insufficient gas pressure. Carkhuff further discloses a torch having a trigger and a pressure switch such that non-actuation of either the trigger or the pressure switch

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prevents the power supply from delivering the pilot arc power to the torch. Carkhuff states that the power source supplies power to the electrode based on its detecting means and pressure switch. Col. 3, lns. 47, 62-63; col. 4, lns. 10-11; col. 7, ln. 44; col. 8, lns. 23-24. Carkhuff further states that, referring to Fig. 2, "In operation, ... [w]hen the operator depresses the control switch 35, a low voltage electrical circuit in the power source is closed [and] the electrical circuit opens a solenoid positioned in the power source such that means 70 supplies a pressurized flow of gas through passageway 74 in conduit 72 to the bore 24 in head portion 21." Col. 7, lns. 6-12. Carkhuff continues, stating that "[i]f means 80 senses sufficient gas pressure in the torch body 20 to provide cooling and the required gas flow for a predetermined time, ..., the detecting means closes, or causes to be closed, an electrical circuit to permit power source to supply electrical current to the torch 10." Col. 7, lns. 30-35.

Where Carkhuff discloses a portion of its circuit in the torch handle, and then relays a signal back to the power source, where a remaining portion of its circuit in the power source initiates the arc at the torch, the present invention creates the pilot arc signal inside the torch body and relays that pilot arc signal directly to the electrode. Carkhuff does not disclose, or even suggest, such a configuration.

Referring to Fig. 7, Carkhuff states that "... detecting means 80 is positioned within handle portion 31 adjacent supplying means 70 [such that], gas passageway 84 in conduit 82 is in fluid communication with gas passageway 74 in conduit 72." and that "[a]ccordingly, as long as there is sufficient gas pressure in torch body 20, pressure switch 86 will be closed and the power source will supply an electrical current to the electrode 40." Col. 8, lns. 18-24. Referring to Fig. 7 of Carkhuff, when an operator depresses control switch 35 and pressure switch 86 is closed indicating a flow of shielding gas, a power source is enabled to communicate a plasma cutting power through torch body 20 to electrode 40. As shown in Fig. 7, the plasma torch disclosed in Carkhuff includes a conductive path formed therethrough for communication of a plasma cutting power from the power source to the electrode. This is not what is called for in claim 1. Carkhuff does not have "a plasma starting circuit disposed in the torch body..." that "generates" the pilot arc signal. Claim 1 calls for a plasma torch having a circuit disposed in the torch body and configured to generate the pilot arc signal. Applicant does not disagree that the torch of Carkhuff communicates a plasma arc power therethrough; however, as shown and disclosed by Carkhuff, the plasma power is generated in a circuit in the power source and not a circuit disposed in the torch body as explicitly called for in claim 1. In order to further clarify, Applicant has amended claim 1 to specifically state that the generation of a pilot arc signal is in the torch body and that

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pilot arc signal is sent directly to the output electrode (i.e., it does not go to the power source, then back to the torch). Accordingly, that called for in claim 1 is not disclosed, taught, or even suggested by Carkhuff. As such, Applicant believes claim 1, and the claims which depend therefrom, are patentably distinct over Carkhuff.

The Examiner rejected claim 12 under 35 U.S.C. §102(b) as being anticipated by Carkhuff. Applicant has amended claim 12 to clarify that which is called for therein. Claim 12 calls for, in part, a pilot arc starting circuit positioned in the plasma cutting torch and configured to supply the plasma cutting torch with a pilot arc voltage produced by the pilot arc starting circuit in the plasma cutting torch. That is, the circuit positioned in the cutting torch produces the pilot arc voltage necessary for generation of the pilot arc. As previously explained, Carkhuff relays a signal back to the power source to create the pilot arc. Carkhuff does not disclose or suggest such a plasma cutting torch. Accordingly, claim 12, and the claims that depend therefrom, are believed to be patentably distinct over Carkhuff.

The Examiner also rejected claim 16 under 35 U.S.C. §102(b) as being anticipated by Carkhuff. As argued above with respect to claims 1 and 12, Carkhuff does not teach or suggest a plasma cutting torch having a starter circuit disposed in the plasma cutting torch and configured to generate sufficient power to cause a pilot arc in the plasma cutting torch. Claim 16 has been amended to clarify that the power source provides operational power to the plasma cutting torch in that the starter circuit, that is disposed within the plasma cutting torch, is configured to receive that operational power from the power source and step up voltage of the operational power to a high frequency, high voltage power within the plasma cutting torch to cause a pilot arc in the plasma cutting torch. There is no disclosure in Carkhuff for any component, element, switch, or means disposed in the plasma cutting torch capable of generation of such a signal. As argued with respect to claims 1 and 12, Carkhuff is clear that generation of the pilot arc power signal is communicated from the power source to the torch and is not "generated" or "produced" within the torch. It may be initiated in the torch, but it is not "generated" or "produced". Accordingly, claim 16, and those claims depending therefrom, are believed patentably distinct thereover.

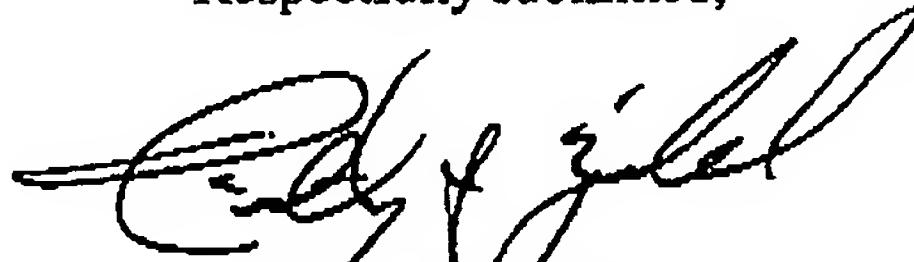
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Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-20.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,



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